

REMARKS

Claims 1 – 82 were cancelled prior to examination. Claims 83 – 89 have been pending, wherein claims 83, 84, 86 and 89 are amended herein. New Claims 90 – 107 are directed to the same Group VIII as the originally elected claims 83 – 89. The new claims are fully supported by the original specification and Fig. 13.

In the Office Action dated December 17, 2004, the Examiner rejected claims 83, 84, 86, 87, and 89 under 35 U.S.C. §102(b) as anticipated by US Patent 5,566,443 to Allan et al. The Examiner rejected claims 85 and 88 under 35 U.S.C. §103(a) as obvious over US Patent 5,566,443 to Allan et al. Applicant respectfully disagrees with these rejections if again applied to the pending claims.

In US Patent 5,566,443, Allan discloses a completely different transformer device than the transformer device claimed in independent claims 83, 89, and 105.

Specifically, the transformer claimed in claims 83, 89, and 105 includes a single magnetic core including several sides. Furthermore, the claimed transformer device includes two primary windings (primary coils) and two secondary windings (secondary coils), wherein one primary coil and one secondary coil are positioned concentrically with respect to each other, and are located co-axially with respect to one side of the magnetic core. The claimed transformer device includes two sides of the magnetic core, wherein each side is associated with concentric primary and secondary windings.

The dependent claims include additional novel combinations of features. For example, the claimed transformer device may include a tertiary winding wound together with a primary winding on a primary bobbin positionable over one side of the magnetic core. The claimed transformer device may include a casted insulator located in the space between the primary winding and the secondary winding. The insulator may include a silicone rubber.

In US Patent 5,566,443, Allan discloses a completely different transformer device. Specifically, in col. 9 lines 28 – 55, Allan discloses:

FIG. 2 shows the configuration of an electrical coil for a transformer wound in the groove 1C of the former 1A, 1B. The whole groove is first lined with an insulation layer 21 and a flat insulation layer 22 is then positioned at the innermost part of the groove. Electrical conductor is then wound into the groove to form an inner primary winding 23 for the transformer which may have an input primary voltage of 33KV. A further flat insulation layer 24 is placed on the primary winding 23, and further electrical conductor is then wound into the groove 1C to fill the groove and form an outer secondary winding 25 for the transformer which may have an output secondary voltage of 400 V. The windings 23 and 25, with the insulation layers 21, 22, 24 provide a pre-formed coil 20 from which the former sections 1A and 1B are then removed. The shape of the pre-formed coil 20 can then be consolidated by taping.

The pre-formed coil 20 is then assembled together with a similar pre-formed coil 30 as shown in FIG. 3 so that where they meet their semi-circular cross-sectioned parts 20A, 30A combine to form a circular section solid cylinder. A hollow circular mandrel 40 of electrically insulating material, for example epoxy resin, is then formed around the circular cylinder 20A, 30A.

The mandrel 40 is then rotated to wind thereon a roll of continuous non-amorphous conventional grain oriented electrical steel strip to form an uncut, unannealed, wound magnetic core 50 which fills the space within the coils 20, 30.

Thus, Allan discloses a completely different transformer device having a different coil design with windings 23 and 25 wound on the former 1A and 1B inside a groove 1C. Allan also discloses a magnetic core 50 shown in Figs. 3, 3A, 4 and 4A. In connection with Figs. 6 and 7, Allan discloses in col. 12 lines 10 – 37, Allan discloses:

Referring now to FIG. 6, there is shown a coil-core configuration for a transformer with a single pre-formed coil 202 having an overall rectangular shape and a circular cross-section. A hollow circular cylindrical mandrel (not shown for convenience in FIG. 6) is located around each of two opposite coil legs, and each mandrel is rotated to wind thereon a single roll of continuous non-amorphous steel strip having a single width in the range 250 mm to 1 m thereby to form an unannealed, uncut wound magnetic core 501, 502 on each mandrel, having overall circular shape and rectangular cross-section, with the windows of each said core substantially filled by the coil.

Compared with having a transformer with coils passing through a single core, as previously described with reference to FIG. 3, the two cores 501, 502 of the arrangement shown in FIG. 6 may have a smaller radius in order to provide the total amount of flux carrying core required and hence the mean path length and resulting volume and weight of core steel is reduced. The cores 501, 502 may be considered as a single core wound in two parts.

FIGS. 7 shows a modification of the FIG. 6 arrangement in which the weight of core steel required may be still further reduced by winding the core in four parts. Thus a single circular cross-section overall rectangular coil 203 has an unannealed, uncut core 503, 504, 505, 506 of overall circular shape and

rectangular cross-section wound with non-amorphous steel strip on each of its four legs.

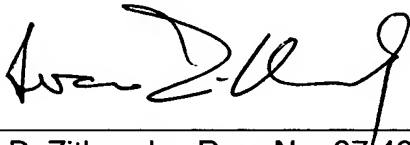
Thus, Allan again discloses a completely different transformer device having a coil 202 (or a coil 203) and wound magnetic cores 501 and 502 (or wound magnetic cores 503, 504, 505, 506).

In summary, US Patent 5,566,443 to Allan discloses completely different transformer devices than the transformer devices claimed in independent claims 83, 89, and 105. Furthermore, the claimed transformer device is not an obvious modification of the Allan's teaching due to fundamentally different designs. The dependent claims 84-88, 90 – 104, 106 and 107 include additional novel combinations of features.

Accordingly, all claims 83 – 107 are clearly patentable and such action is respectfully requested.

Please apply any charges or credits to the Deposit Account 502-196.

Respectfully submitted,



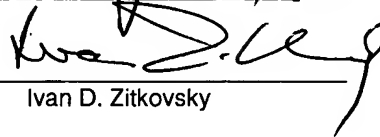
Ivan D. Zitkovsky, Reg. No. 37,482
5 Militia Drive
Lexington, MA 02421

Tel. +781-274-6690
Fax +781-274-6696

**CERTIFICATE OF MAILING
UNDER 37 C.F.R. §1.8(a)**

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

May 17, 2005


Ivan D. Zitkovsky